ABSTRACT

To provide an exposure apparatus and an exposure method able to correct an image-placement error during an exposure which is unable to decrease only by correcting electron beam description data of a mask pattern, and a semiconductor device manufacturing method used the same, wherein an image placement R2 of a mask is measured at an inversion posture against an exposure posture (ST7), the measured image placement R2 is corrected with considering a pattern displacement caused by gravity at the exposure posture and a first correction data Δ1 is prepared based on a difference of the corrected image placement and a designed data (ST10), and an exposure is performed by deflecting charged particle beam to correct a position of a pattern to be exposed to a subject based on the first correction data Δ1 (ST13).